

**Open master thesis position
500 € / month for 6 months**

in the **Catalyst Design and Reaction Engineering Group**

Production of sustainable aviation fuels (SAF) by catalytic conversion of biomass-derived alcohols

Novel catalysts are needed that can **efficiently and selectively convert alcohols into hydrocarbons** within the jet fuel range. Ongoing research is aiming to develop zeolite-based catalysts for this application.

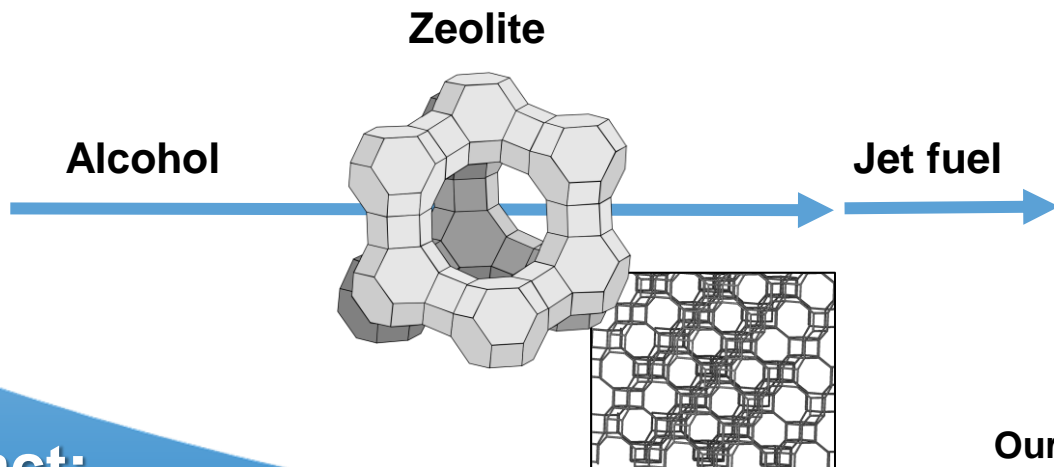
The objective is to efficiently convert alcohols to alkenes, which can be utilized as precursors for jet fuel, while preventing the deactivation of zeolite, which is a crucial aspect in the process.

Zeolites:

- Industrially important acid catalysts
- Crystalline Al-Si or Al-P-Si oxides
- Many different structures are available
- Narrow channels as wide as hydrocarbon molecules
- Reaction in molecule-sized pore systems

Your tasks would involve:

- Modification of commercial zeolites
- Structural and surface characterization of catalysts
- Evaluation of the catalytic performance for converting alcohols to olefins



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